DOCUMENT RESUME

ED 408 963 IR 018 376

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TITLE The Growing Need for Visual Literacy at the University.
PUB DATE Jan 97
NOTE 7p.; In: VisionQuest: Journeys toward Visual Literacy. Selected Readings from the Annual Conference of the International Visual Literacy Association (28th, Cheyenne, Wyoming, October, 1996); see IR 018 353.
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Computer Literacy; *Curriculum Development; Departments; Desktop Publishing; Feedback; General Education; Higher Education; Information Technology; Instructional Development; Liberal Arts; *Needs Assessment; Pilot Projects; *Visual Learning; *Visual Literacy
IDENTIFIERS *Brigham Young University UT; *Course Development; Cross Discipline Education; Multimedia Technology; Practitioners

ABSTRACT

Current research at Brigham Young University (BYU) determined that basic visual literacy instruction is needed in disciplines outside of the arts. Following a needs assessment survey of BYU's 83 departments, an honors general education Arts and Letters course in visual literacy was piloted in the 1996 winter semester. Lectures were presented by full-time, part-time, and retired faculty while the desktop publishing and multimedia production was taught by full-time working professionals. Students gave the course an excellent rating. Another survey, combined with personal interviews, was administered to the colleges of Nursing, Engineering, Social and Family Sciences, Business, and Fine Arts and Communications to determine the level of importance of visual literacy and the level of proficiency needed for the different disciplines. Statistical analysis of the data revealed visual literacy to be somewhat important across all the disciplines and identified an intermediated level of proficiency as needed by students in all five of the colleges. It was concluded that a visually literate person should be able to: (1) interpret, understand, and appreciate the meaning of visual messages; (2) communicate more effectively through applying the basic principles and concepts of visual design; (3) produce visual messages using the computer and other technology; and (4) use visual thinking to conceptualize solutions to problems. The study also indicated that even though giving students individual feedback was very labor- intensive, it was critical to the learning experience. (AEF)

The Growing Need For Visual Literacy At The University

by Jerry T. Christopherson

Abstract

Current research at Brigham Young University determined visual literacy is important to Engineering, Nursing, Business, Social and Family Sciences, and Fine Arts and Communications. The research also determined that an intermediate level of proficiency creating visual communication is necessary for students in all five colleges. An honor's course providing theory in the basic design of visual communication and hands on production in desktop publishing and desktop multimedia is being piloted and evaluated. The course fills an Arts and Letters or Social Science general education requirement and a faculty survey determined more than 1500 students a semester need this type of course.

Introduction

Reading, writing and arithmetic has typically been consider the basic components of literacy. However, today the word literacy has taken on a much broader definition including computer literacy, media literacy, ecological literacy, financial literacy and so on. Educators, parents and politicians often cry for a return to the basics. But now the question is: what is basic (Postman, 1995)? Is reading and writing enough to be literate in what has come to be called the technology age? Or do individuals need a whole host of other skills to be labeled "literate"?

Along with massive advances in technology has come a significant increase in visual imagery. Each day we are bombarded by a steady unrelenting stream of visual images from 260,000 billboards, 11,520 newspapers, 11,556 periodicals, 23,237 movie theaters and drive-ins. More than 27,000 outlets are available for renting videos; 162 million television sets each play for 7 hours every day (Forsberg, 1993). Between the ages of three and eighteen, the average American youngster will see about 500,000 television commercials, which means that the television commercial is the single most substantial source of values to which the young are exposed (Postman, 1995).

Years of research and experience have gone into learning how to manipulate the elements of design (color, line, size, shape, value, texture, light, sound, and movement) to elicit certain emotional responses from the viewer, emotional responses that often lead to predictable behavior And yet, in the mist of this image explosion visual literacy is still not considered basic to an individuals general education (Lester, 1995).

In *Towards a Psychology of Art*, Arnheim states that visual literacy is the attribute we would hope to find in every well-educated adult in our society, because our culture is increasingly represented and perceived in visual terms (Arnheim, 1967). Perhaps more than any other time in history, we need to teach people how to develop a critical ability which will enable them to judge visual images accurately and behave appropriately (Forsberg, 1993).

Visual Literacy At Brigham Young University

The number of individuals at Brigham Young University (BYU) creating visual images is increasing exponentially. Lower prices and simplification of operations are making it easier for more departments to do their own desktop publishing and desktop multimedia. However, access to equipment and ease of production does not imply increased effectiveness. Few individuals, outside of the visual arts ever receive training in how to apply the basic principles and concepts of design to visual communication for their specific discipline.

"I'm visually illiterate" was a statement I heard over and over again in the past three years

as I interviewed faculty from Business to Botany, from Engineering to Economics, and from Computer Science to Communications. If so many "well educated individuals" outside the arts are feeling visually illiterate the question needs to be asked—why isn't visual communication part of the university curriculum?

The Definition Problem

According to Roberts A. Braden, part of the problem has been the lack of agreement among experts as to what term to use in reference to this area of study. Cassidy and Knowlton wrote a major paper in 1983 entitle "Visual Literacy, a Failed Metaphor?," (Braden, 1995) and Moore and Dwyer included a chapter in their visual literacy textbook titled "Visual Literacy: The Definition Problem" (Moore & Dwyer, 1994).

If "Visual Literacy" is a failed metaphor is there a better term? With the assistance of Professor Dillion Inouye (Instructional Psychology) an instrument was developed to measure the effectiveness of one term over another. Individuals were asked to rate on a seven point Likert scale how well six terms: Media Education, Visual Literacy, Visual Communication, Media Literacy, Visual Thinking, and Multimedia Design captured the concepts, principles, and competencies associated with this area of study.

Judith C. Baca's dissertation *Identification by Consensus of the Critical Constructs of Visual Literacy: A Delphi Study* was used as the bases for the list of targeted competencies (Baca, 1990). Surveys were completed by BYU students and faculty as well as individuals participating in the 1994 Regional 8 AECT Conference. The data was entered into a traditional statistical software program Statview and the analysis of the data identified "Visual Communication" as the better term to use in referring to this area of study.

However, another statistical software program called DataMax was used to conduct further experimental analysis on the data. DataMax was used because of its ability to display multidimensional and multivariate data in a visualized graphic display. The program was developed by Brigham Young University and commercially distributed through Echo Solutions corporation of Orem, Utah. When the data was plotted three dimensionally one best term was difficult to identify. The graphs revealed the extreme multidimensionality of this area of study. Depending on the dimension you choose Visual Communication, Visual Literacy or Multimedia Design, could be considered the better term.

Visual Communication—was the better term when emphasizing the development of traditional visualization skills, learning the basics of color theory and typography; understanding the vocabulary of visual design, using visuals for the purpose of creativity and aesthetic expression, and using visuals for the purpose of communicating.

Multimedia Design—was the better term when emphasizing the combining of visuals with words, movement, sound, music, and time; and proficiency using personal computers with multimedia technology.

Visual Literacy—was the better term when focusing on critically viewing—interpreting, analyzing, evaluating meaning, and judging the quality of visual media. Visual Literacy is the *best* term for encompassing the dimension of visual thinking, visual learning, and using visuals for the purpose of constructing meaning. If we include the general need to develop an awareness and defence against visual manipulation and the historical and social aspects of visual communication —"Visual Literacy" is still the *best* term.

Though Baca's research made significant strides towards bringing experts into agreement on what it means to be visually literate—brevity and conciseness of definition is still needed if visual literacy is to be accepted as general education among those in disciplines outside of the arts.

Identifying The Need

Beginning in the spring of 1993 I designed

and conducted a technology needs assessments for BYU. Surveys were filled out during personal interviews asking participants to identify the need for multimedia production, computer classrooms, and basic instruction in design theory. One faculty member from each of the 83 departments at BYU were randomly selected.

Three major needs at the university were identified by this study:

- Training for faculty and students in desktop publishing and desktop multimedia is needed
- General education credit needs to be given for a course in basic design
- Faculty and students want access to production equipment

After the results were reported Dr. E. Curtis Fawson, director of BYU's Instructional Technology Center and his staff moved forward and developed a *"QuickStart"* training series to meet the need for faculty training in multimedia production. Monty Shelly the director of BYU's Instructional Application Services (IAS) doubled the number of computer classrooms available for instruction. However, the demand for access to the desktop publishing and desktop multimedia computer classroom has already exceeded its capacity. To meet the needs for student instruction Bruce Christensen, the Dean of the College of Fine Arts and Communication, agreed to fund the development and implementation of an Honor's general education course focusing on teaching the basic design of visual communication to non-artists.

A Visual Literacy GE Honors Course

A proposal was drafted laying out the objectives and the content for the new course. Dean Christensen requested an additional needs assessment be conducted to determine the interest in offering such a course. Once again a study was designed to survey BYU's 83 departments. After completing just 15 interviews the numbers had all ready become staggering. Over 1,500 students a semester needed this type of course. The main concern was how to add this needed course to an already bulging curriculum. The critical issue was to get the course approved as a general education course.

The proposal to pilot the course as an honor's general education Arts and Letters course was submitted to the University. The course was approved and piloted Winter Semester (January through April) 1996. The success of the course depended on the collaboration of five different academic departments (Visual Arts, Communications, Film, Business, and Communications) and six service departments (Media services, Print services, KBYU television, Computer support services, Continuing Education and the L.D.S. Church Motion Picture Studio). The lectures were presented by full-time, part-time, and retired faculty while the desktop publishing and multimedia production was taught by full-time working professionals. The faculty student evaluation rating was exceptional and the students gave the course an excellent rating.

What Level of Proficiency in Visual Literacy Is Needed

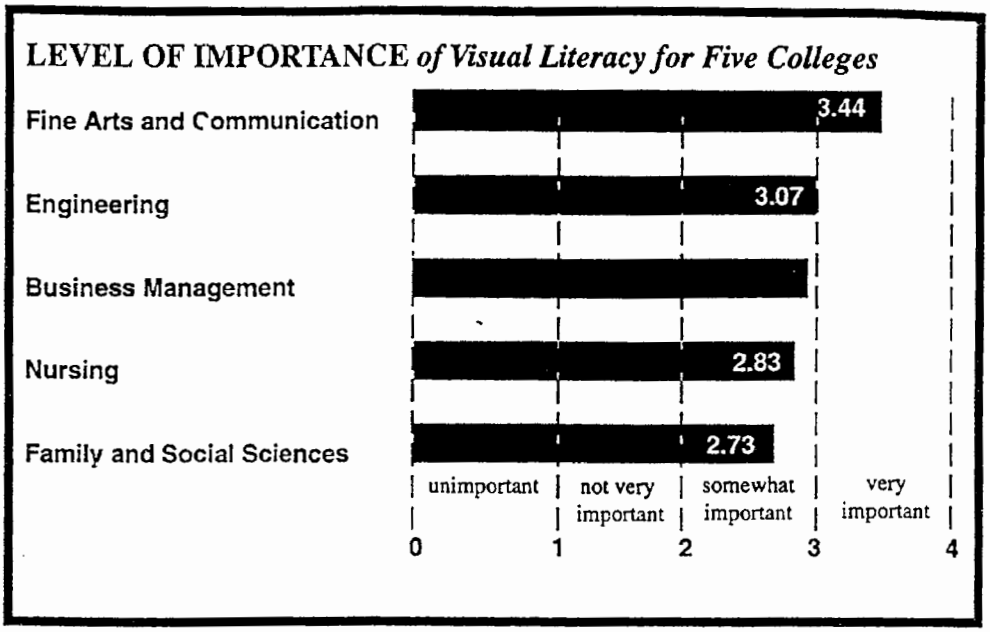
Besides providing lectures and instruction to increase visual literacy research needed to be conducted to determine the level of importance and the level of proficiency need in visual literacy for the different disciplines. With direction and encouragement from Professor Victor Bunderson, an expert in the area of instructional measurement, another survey was designed and conducted using Baca's six visual literacy constructs. Five of BYU's 12 colleges were selected. The sample size was set at 50, ten participants from each of the five colleges.

The colleges selected were:

- Nursing
- Engineering
- Social and Family Sciences
- Business
- Fine Arts and Communications

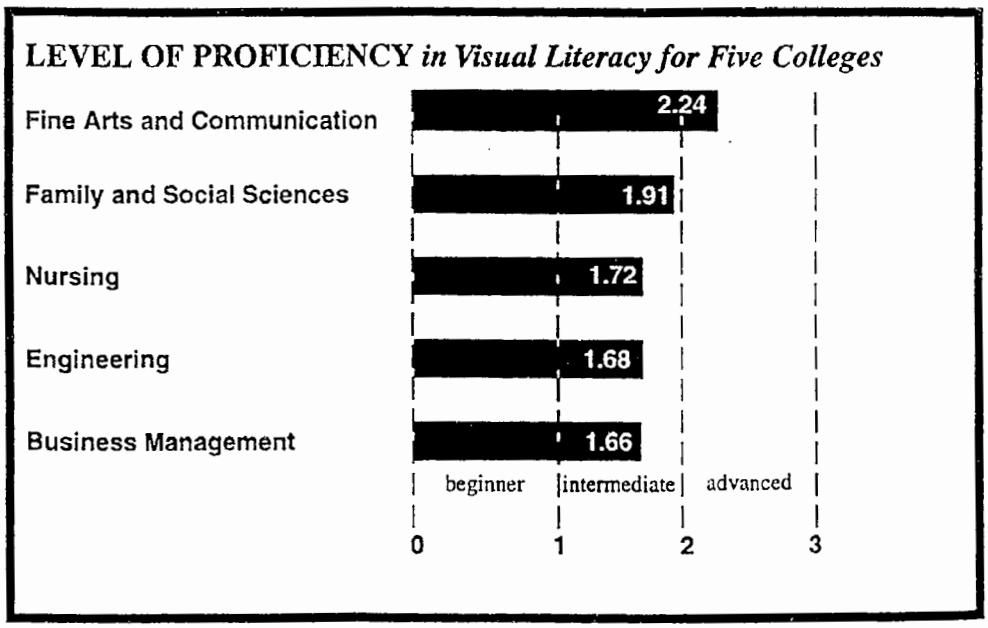
Combining personal interviews with a survey had been so well received in the previous needs

Figure 1



Visual Literacy is somewhat important to all of the disciplines within the five colleges. The overall level of importance is 3.00. Not surprisingly visual literacy is more important to the disciplines within the College of Fine Arts and Communications.

Figure 2



The overall level of proficiency for the five colleges is 1.84. This level of proficiency was higher than expected. The GE course is meant only to be an introduction, a beginning level course.

assessments the method was repeated. Seventy-one personal interviews and surveys were completed.

Results

The statistical analysis of the data revealed visual literacy to be somewhat important across all the disciplines and identified an intermediate level of proficiency is needed by students in all five of the colleges. The data analysis also facilitated regrouping Baca's 167 items into four constructs rather than six.

A more concise answer can now be given when asked: What *does it mean to be visually literate?* A visually literate person is able to:

- Interpret, understand, and appreciate the meaning of visual messages
- Communicate more effectively through applying the basic principles and concepts of visual design
- Produce visual messages using the computer and other technology
- Use visual thinking to conceptualize solutions to problems

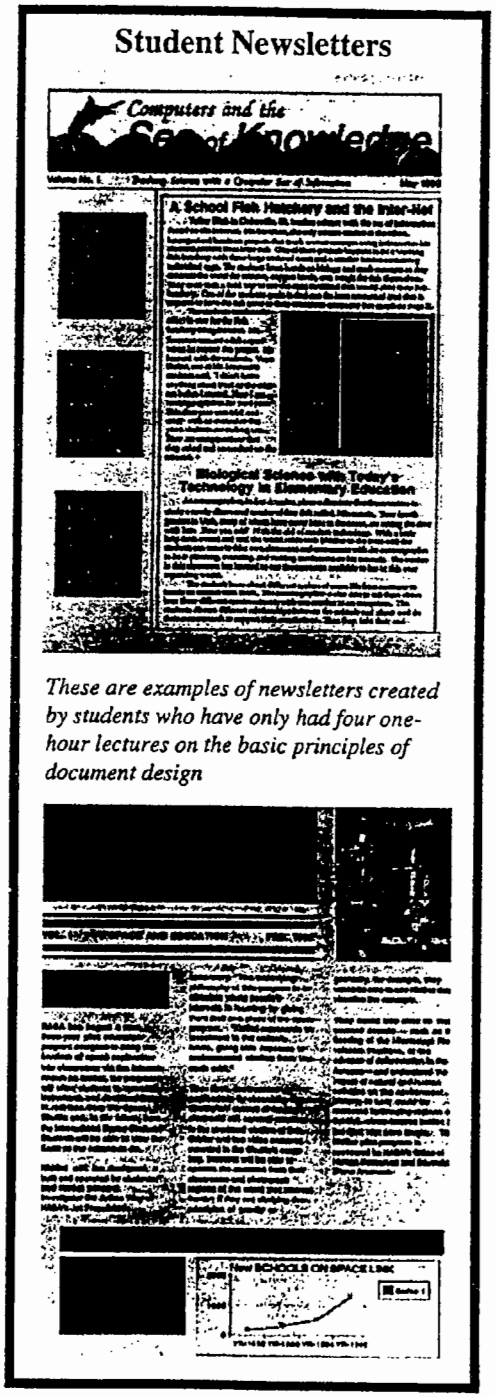
Problems

Only A Beginning Level Of Proficiency

Though the Honor's GE course received a very positive evaluation, this one course can only provide a beginning level of proficiency. Each student completing the course produce a newsletter (refer to figure 3), a five minute computerized presentation and a Quicktime movie. These projects look pretty impressive when compared to what the students have been able to produce prior to the course. A concern by some of the Visual Arts faculty is students may feel they have acquired an intermediate or advanced level of proficiency.

A reliable and valid means of measuring each students level of proficiency prior to taking the course and after completing the course is critical. Additional instruction, self instructional or in-class with a teacher, must be made available so an individual can obtain the level of proficiency necessary for their specific discipline

Figure 3



These are examples of newsletters created by students who have only had four one-hour lectures on the basic principles of document design

Does The Need Justify The Cost?

Del Scott, the Assistant Academic Vice-President of computing at BYU, agrees every student would benefit from a general education course in visual literacy. But his concern is how do you provide the computer support for such a course. Two thousand students a semester is a conservative estimate in his opinion. If each student were given just 6 hours a week of computer time this would amount to 12,000 hours a week, at least 10 labs with 24 computer stations, 240 site licences for desktop publishing and an equal amount for multimedia production. Then you have to add the cost of training the 2,000 students each semester. He didn't say the University couldn't do it but that costs and needs must be justified.

Giving Individual Feedback

Providing equipment and paying for instruction for large numbers of students will be a challenge but so is developing effective large group instruction. Paul Merrill, the department chair of BYU's Instructional Science Department in the College of Education ask if the instruction in basic design concepts and principles, being developed for the GE course, could be piloted in the Instructional Technology in Education course. Approximately 300 Elementary and Secondary Education majors take this course each semester and need instruction in visual literacy. He realized it could be several years before the GE course would be available for more than just a few students.

The newsletter assignment has been given to approximately 900 education majors over the past several semesters. Evaluating each newsletter and giving students individual feed back on the effectiveness in applying the basic principles of good design has been overwhelming. However, feedback is critical to the learning experience. This semester the student lab assistants are being trained to evaluate the newsletters, give students feedback and grade the newsletter

Visual Literacy Requires Change

The research conducted at BYU over the past three years shows that visual literacy is important in the disciplines of these five colleges. According to Becky Beus, an instructor at Boise State University and part of the public relations team at Micron Technology, students with visual communication skills are more marketable. The standards for corporate presentations are changing— today visuals are expected and computer skills have become "basic" to our society. Change is often referred to as the one constant in our society and Neil Postman indicates change in educational curriculum comes slowly but it does come.

Brigham Young University made a change so 31 students could receive Arts and Letters general education credit for a visual literacy course. Starting in January of 1997 sixty more students will be able to enroll in *An Introduction to the Basic Design of Visual Communication* and receive GE credit in either Arts and Letters or Social Science. Persistence and patience will be necessary if we hope to see visual literacy become basic to a university education.

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